IN THE CLAIMS AMEND

1. (Currently Amended) Flat storage element for an X-ray image, with a large number of storage particles (20) which may be placed by means of X-ray light in metastable excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with a transparent binding agent (22) by means of which the storage particles (20) are held together to form a storage layer (12), wherein the binding agent (22) and the storage particles (20) have substantially the same refractive index and the binding agent is crystal clear, ~~characterised in that~~wherein the storage particles (20) consist of a transparent salt material which comprises two salts chemically different but crystallizing in the same crystal structure, wherein the salts form a mixed crystal.

2. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~wherein the salts differ in at least one of their cations and~~/or~~ anions.

3. (Currently Amended) Storage element according to claim 2, ~~characterised in that~~ wherein the cations are halide ions.

4. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~ wherein the binding agent (22) is a transparent plastics material with a refractive index of between 1.4 and about 1.6.

5. (Currently Amended) Storage element according claim 1, ~~characterised in that~~ wherein the refractive index of the material of at least one of the storage particles (20) and/~~or~~ the refractive index of the binding agent (22) is isotropic.

6. (Currently Amended) Storage element according to claim 1, ~~characterised by~~ further comprising an anti-reflection coating (14) borne by the front surface of the storage layer (12).

7. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~ wherein the rear side of the storage layer (12) bears an absorbing layer (16) which absorbs the activating light.

8. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~ wherein a reflecting layer (16) is provided on the rear side of the storage layer (12) ~~a reflecting layer (16) is provided~~, which reflects the fluorescent light and is ~~preferably~~ connected firmly to the storage layer (12).

9. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~ wherein a protective layer of material absorbing X-ray beams is arranged behind the storage layer (12) ~~is arranged a protective layer (18) of material absorbing X-ray beams~~, ~~in particular~~ the protective layer comprising a metal layer consisting of a metal with high order number such as lead.

10. (Currently Amended) Storage element according to claim 9, ~~characterised in that~~wherein the protective layer (18) is connected firmly to the storage layer (12)~~, e.g. with the use of~~ by an adhesive layer (16) that absorbs the activating light ~~which preferably simultaneously assumes the function of the absorbing layer (16) according to claim 7~~.

11. (Currently Amended) Storage element according to claim 1, ~~characterised in that~~wherein at least one of the storage layer (12), ~~and/or~~ the anti-reflection coating (14), ~~and/or~~ the absorbing layer (16), ~~and/or~~ the reflecting layer, (16) and~~/or~~ the protective layer (18) form a bendable layered structure.

12. (Currently Amended) Method for producing a storage element according to claim 1, ~~characterised in that~~ wherein the binding agent (22) is prepared in the liquid state and the storage particles (20) are dispersed in the liquid binding agent (22), and that the material obtained in this way is dispersed to form a thin film-type layer and the binding agent is then cured.

13. (Currently Amended) Method according to claim 12, ~~characterised in that~~ wherein the binding agent (22) is prepared in the highly liquid state, to which end it is at least one of diluted and~~/or~~ heated.

14. (Currently Amended) The storage element according to claim 1, ~~characterised in that~~wherein the crystal clear binding agent is chosen from the group consisting of EIFE, MF resin, EP resin, crowns, flints, rigid PVC, PS, SAN, PMMA, PA6, PA66, PA11,

Pa12, and PC.

15. (Currently Amended) A method for producing a storage element for an X-ray image with a large number of storage particles which may be placed by means of X-ray light in metastable excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with at transparent binding agent by means of which the storage particles are held together to form a storage layer, wherein the binding agent and the storage particles have substantially the same refractive index, ~~characterized in that~~and wherein the refractive index of the binding agent is measured and in that two salts, which are chemically different but crystallize in the same crystal structure are selected, one of which having a refractive index lower than the refractive index of the binding agent and the other having a refractive index above the refractive index of the binding agent and the two salts are mixed in a proportion such that the refractive index of the mixed crystals obtained form the two salts matches the refractive index of the binding agent.

16. (Previously Added) The method according to claim 15, wherein the binding agent is crystal clear.

17. (Previously Added) The method according to claim 16, wherein the binding agent is taken from the group consisting of EIFE, MF resin, EP resin, crowns, flints, rigid PVC, PS, SAN, PMMA, PA6, PA66, PA11, PA12, and PC.

18. (Previously Added) The method as in claim 15, wherein the salts differ in their cations.

19. (Previously Added) The method as in claim 15, wherein the salts differ in their anions.

20. (Previously Added) The method as in claim 15, wherein the salts differ in their cations and anions.

21. (New) Flat storage element for an X-ray image, with a large number of storage particles (20) which may be placed by means of X-ray light in metastable excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with a transparent binding agent (22) by means of which the storage particles (20) are held together to form a storage layer (12), wherein the binding agent (22) and the storage particles (20) have substantially the same refractive index and the binding agent and the storage particles are crystal clear, wherein the storage particles (20) consist of a transparent salt material which comprises two salts chemically different but crystallizing in the same crystal structure, wherein the salts form a mixed crystal.

22. (New) Storage element according to claim 21, wherein the salts differ in at least one of their cations and anions.

23. (New) Storage element according to claim 22, wherein the cations are halide ions.

24. (New) Storage element according to claim 21, wherein the binding agent (22) is a transparent plastics material with a refractive index of between 1.4 and about 1.6.

25. (New) Storage element according claim 21, wherein the refractive index of the material of at least one of the storage particles (20) and the refractive index of the binding agent (22) is isotropic.

26. (New) Storage element according to claim 21, further comprising an anti-reflection coating (14) borne by the front surface of the storage layer (12).

27. (New) Storage element according to claim 21, wherein the rear side of the storage layer (12) bears an absorbing layer (16) which absorbs the activating light.

28. (New) Storage element according to claim 21, wherein a reflecting layer (16) is provided on the rear side of the storage layer (12), which reflects the fluorescent light and is connected firmly to the storage layer (12).

29. (New) Storage element according to claim 21, wherein a protective layer of material absorbing X-ray beams is arranged behind the storage layer (12), the protective layer comprising a metal layer consisting of a metal with high order number such as lead.

30. (New) Storage element according to claim 29, wherein the protective layer (18) is connected firmly to the storage layer (12)by an adhesive layer (16) that absorbs the activating light.

31. (New) Storage element according to claim 21, wherein at least one of the storage layer (12), the anti-reflection coating (14), the absorbing layer (16), the reflecting layer, (16) and the protective layer (18) form a bendable layered structure.

32. (New) Method for producing a storage element according to claim 21, wherein the binding agent (22) is prepared in the liquid state and the storage particles (20) are dispersed in the liquid binding agent (22), and that the material obtained in this way is dispersed to form a thin film-type layer and the binding agent is then cured.

33. (New) Method according to claim 32, wherein the binding agent (22) is prepared in the highly liquid state, to which end it is at least one of diluted and heated.

34. (New) The storage element according to claim 21, wherein the crystal clear binding agent is chosen from the group consisting of EIFE, MF resin, EP resin, crowns, flints, rigid PVC, PS, SAN, PMMA, PA6, PA66, PA11, Pa12, and PC.